USAF AFRL C-135 C-4I Flying Test Bed

Collaborative Planning Workshop
22- 23 April 2003

The Aircraft

Proposed AFRL C4I Airborne Testbed

Joint effort with JTRS JPO, AFRL, Lockheed Martin, General Dynamics, and JTF WARNET

AFRL C4I AIRBORNE TESTBED for participation with JTF WARNET Operational Prototype testing from May 03 to Oct 03

Capabilities:

- **EHF, Ka, Ku SATCOM**
- **Software Programmable Radio (DMR)**
- **JTIDS terminal with Rosetta Gateway**
- **Surrogate JTRS WNW using VRC-99 for networking relay**

USAF C-135 C4I Flying Test Bed

- Primary Mission
  - RDT&E of Airborne Wireless Technologies
- Current Configuration
  - To Support JTF WARNET Operational Prototype Testing
    - May 03 to Oct 03
- Potential SV C2 Uses
  - CONUS to Seabase
  - Within the Seabase
  - Seabase to Objective
- Aircraft Characteristics
  - Approximately 9 Hrs Fuel on Board
  - Cannot Be Refueled in Flight
  - Requires Minimum 7,000 Ft Runway

Current C4I Capabilities

- Capable of Transmit/receive Between 2.4 KB to 23 MB
- Iridium
- Ehf; Vhf; Uhf;
- Satcom
  - Ka; Ku
- Surrogate JTRS WNW Using VRC-99 for Networking Relay
- JTIDS Terminal With Rosetta Gateway
- Link 16
- DMR Radio
  - Multi Function Radio. All Features / Capabilities Developed and Implemented in Software
  - Similar to a Computer, Sits on a Securable LAN With Its Own Internet Protocol Address
  - Only Software Defined Radio in Production

Test Bed Advantages

- Dedicated / Designed to Support C4I Initiatives
  - Does Not Require Use of an Operational Asset
  - Aircrew(s) Assigned
    - Sourced From USAF FTC, Edwards AFB
  - Equipment Racks Approved for Flight
  - Antennas Already Installed
  - Required Frequency Clearances Obtained by AFRL
  - Data Collection/monitoring/recording Provisions Already Installed

Test Bed Disadvantages

- Not Free
  - $5,000 per flight hour
    - Includes crew
- Preference not based on Service affiliation
  - Scheduled based on date / time of support request

Questions?